

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Unlicensed Operation in the TV Broadcast Bands)	ET Docket No. 04-186
)	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band)	ET Docket No. 02-380
)	

**REPLY COMMENTS OF

LG ELECTRONICS USA, INC.,
PANASONIC CORPORATION OF NORTH AMERICA
AND TTE CORPORATION**

The Commission’s report on DTV Interference Rejection Thresholds (the “FCC Report”)¹ and the extensive record in this proceeding raise serious concerns that unless the Commission adopts sufficient safeguards, consumers’ substantial investment in DTV receivers and converter boxes could be undermined by the introduction of new devices into the DTV spectrum. Accordingly, consumer electronics manufacturers LG Electronics USA, Inc., Panasonic Corporation of North America and TTE Corporation (the “DTV Manufacturers”) file these reply comments to urge the Commission to proceed cautiously in allowing any new devices into the DTV spectrum and not authorize *any* device unless and until it has been conclusively demonstrated that it does not cause harmful interference to DTV receivers.

¹ See *Office of Engineering and Technology Report: Interference Rejection Thresholds of Consumer Digital Television Receivers Available in 2005 and 2006*, OET Report, FCC/OET 07-TR-1003 (March 30, 2007) (“FCC Report”).

I. THE COMMISSION MUST PROTECT CONSUMERS' INVESTMENT IN DIGITAL TELEVISION RECEIVERS AND CONVERTER BOXES.

Today, more than 50 million DTV receivers are in the hands of the American public.² And between now and the analog shutdown on February 17, 2009, consumers will purchase over 60 million more receivers, *plus* millions of digital-to-analog converter boxes supported by the coupon program to be administered by the National Telecommunications and Information Administration ("NTIA").³ No DTV set or set-top box is designed to withstand massive amounts of new interference from new and untested devices. In light of the huge and growing installed base of digital television receivers and the overarching importance of a successful DTV transition, it is critical that the Commission preserve the public's ability to receive free, over-the-air HD and other DTV signals without interference from any new devices that may be authorized in this proceeding.

The Commission has correctly decided that no new devices would be allowed into the DTV spectrum until after analog TV broadcasting ceases, thereby preventing interference over the next two years from dissuading consumer acceptance of DTV technology; however, the Commission will continue to have the responsibility and duty to protect consumers after February 2009. Efforts such as the DTV Transition Coalition – a diverse group including the Consumer Electronics Association, major broadcast trade associations, NTIA, and many of the undersigned manufacturers – are gearing up to educate consumers on both the nature of DTV

² See, e.g., *Hearing on the Status of the Digital Television Transition*, Testimony of John I. Taylor, LG Electronics USA, Inc., VP, Public Affairs and Communications Before the Subcommittee on Telecommunications and the Internet of the House Energy and Commerce Committee, March 28, 2007.

³ *Id.*

technology and the steps they can take to preserve access to local television signals.⁴ It would be sadly ironic if, after all these efforts by the private and public sectors to educate consumers and to promote a successful conclusion to the transition, the Commission were to allow new devices to prevent consumers from reaping the benefits of that transition.

Moreover, the Commission should not allow new devices to preclude the public's enjoyment of new DTV innovations, many of which are already in advanced stages of development. For example, mobile DTV technologies will allow consumers to enjoy DTV programming and data broadcasts on handheld screens such as portable DTVs, mobile phones, laptop PCs, PDAs and the like.⁵ The proximity of such movable DTV receivers to unlicensed transmitters is quite variable and certainly unpredictable.

If the Commission adopts rules that allow any interference with such innovative DTV products, consumers will be disadvantaged in several ways: either because new technologies will not be deployed since manufacturers and other developers will find it difficult to justify continued investment in devices that may experience interference, or because consumers will not purchase mobile products (or will have unsatisfactory experiences with products they do purchase) because of this interference.

⁴ See, e.g., *Countdown to February 2009: Digital Television Transition (DTV) Coalition Pledges to Alert Consumers About Transition From Analog to Digital TV*, Press Release, Feb. 28, 2007 ("The mission of the DTV Transition Coalition is to ensure no consumer is left without broadcast television due to a lack of information about the transition.")

⁵ See, e.g., Harry A. Jessell, *Harris, LG Unveil Mobile DTV Technology*, TV Newsday, April 7, 2007.

II. RESULTS OF THE FCC REPORT RAISE CONCERNS ABOUT INTERFERENCE FROM NEW DEVICES TO DTV RECEIVERS.

The results of the FCC Report confirm the DTV Manufacturers' concerns that without adequate safeguards, new devices in the DTV spectrum could cause harmful interference to DTV receivers and digital-to-analog converter boxes. Accordingly, the Commission should proceed cautiously and not authorize *any* device unless and until it has been conclusively demonstrated that it does not cause harmful and debilitating interference to DTV receivers.

As a general matter, the FCC Report demonstrates that DTV receivers are highly susceptible to interference from devices operating on a co-channel or adjacent channel, and even a channel further removed from the desired channel (*i.e.*, the DTV channel that a consumer is attempting to view). This vulnerability is particularly great when the DTV receiver faces weak signal conditions, which, according to the FCC Report, occur in up to *84 percent* of a station's coverage area.⁶

In light of the FCC Report's findings on both interference vulnerability and the widespread presence of weak signals throughout a station's service, the DTV Manufacturers agree with MSTV and NAB that all new devices must operate outside the contour of both co- and adjacent channels. Without that protection, a strong signal from a nearby device will overwhelm the weak, but otherwise perfectly-viewable, desired DTV signal.⁷ Consequently, the Commission must adopt D/U protection ratios that are based on an assumption of the weak signal conditions that most viewers will experience. The weak signal prevalence documented by

⁶ See FCC Report at xi.

⁷ See Comments of MSTV and NAB to the OET Measurement Report on DTV Receiver Interference Rejection Capabilities, ET Docket No. 04-186 (filed April 30, 2007) ("MSTV/NAB Comments").

the FCC Report also suggests that spectrum sensing, which requires a device to reliably detect DTV signals, is an insufficient means to prevent the accidental transmission of a new device on an occupied television channel.

The finding regarding weak signal conditions also refutes the unsupported contention of the White Spaces Coalition that a DTV set able to reject undesired DTV broadcast signals will *de facto* be capable of rejecting undesired device signals.⁸ In fact, the device will typically be *much* closer to the DTV set than any of the weak (desired or undesired) broadcast signals, making it very difficult for the DTV set to reject interference from the device.⁹ This is particularly significant in the case of personal/portable/handheld devices, which typically would operate both outside and within the home and therefore create the greatest danger of interference to consumers' DTV receiving equipment within the home.¹⁰

The Commission should also reject the claim of the White Spaces Coalition that its rules should disenfranchise any consumer who has purchased a DTV set that does not fully meet the "Grand Alliance" prototype or voluntary ATSC guidelines.¹¹ As the Commission is aware, the issue of receiver performance standards is highly complex, and involves a careful balancing of consumer interests in affordability, performance, and other factors. The purpose of

⁸ See Comments of the White Spaces Coalition on the OET DTV Interference Rejection Measurement Report, ET Docket No. 04-186, at 2 (filed April 30, 2007) ("White Spaces Coalition Comments").

⁹ Proposals by certain parties that the Commission's rules should not protect DTV sets that are closer than 10 meters to a new device raise particular concerns in the context of personal/portable devices, given how close such devices are likely to be to DTV receivers in the home. See, e.g., Letter from Michael J. Marcus *et al.* on behalf of New America Foundation to Marlene H. Dortch, Secretary, FCC (April 2, 2007).

¹⁰ See, e.g., MSTV/NAB Comments at 9 ("[U]nlike fixed devices, personal/portable devices can be operated anywhere, including indoors and often in close proximity to televisions.")

¹¹ White Spaces Coalition Comments at 3.

this proceeding is to determine whether some subcategory of new devices can be allowed to operate *without interference* to DTV receivers and set-top boxes – not to adopt mandatory, *ex post facto* performance standards that will leave many consumers in the dark.

CONCLUSION

The undersigned consumer electronics manufacturers urge the Commission not to take any action in this proceeding that would prevent reliable reception of digital television signals. To that end, the Commission should look closely at the results of the FCC Report, which suggest that significant interference is likely to occur absent the adoption of carefully crafted interference protection rules.

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